

**ABSTRACT OF THE DISCLOSURE**

The invention provides a method and system for dynamically estimating background noise comprising. The system includes a portable communication device, a vocoder, and a voice activated detector. Based on information received by the portable communication device, the vocoder determines parameters related to incoming information including a voicing mode indicative of the periodicity of incoming information. The voice activated detector then compares the voicing mode to a threshold to determine whether a background noise estimate should be updated. The method includes the steps of: receiving a periodicity indicator and a current comfort noise level for an incoming voice frame; comparing the periodicity indicator with a predetermined threshold if the current comfort noise level is equal to a previous comfort noise level; and maintaining a background noise estimate if the periodicity indicator exceeds the predetermined threshold and revising a background noise estimate if the periodicity indicator does not exceed the predetermined threshold.